

ENERGY AND ENVIRONMENT CABINET

Department for Environmental Protection

Division of Water

(Amendment)

401 KAR 8:020. Public and semipublic water ~~systems~~; ~~[supplies]~~ general provisions.

RELATES TO: KRS 211.350 – 211.392 [~~211.3501-211.392~~], 223.160-223.220, 224.10-100, 224.10-110, 224.16-050, 369, 40 C.F.R. 141, [~~369~~], 142.14, 142.15, 142.20, 142.21, 142.40-142.65, EO 2009-538 [~~2008-507, 2008-531~~]

STATUTORY AUTHORITY: KRS 223.200, 224.10-100(28), 224.10-110(2), 40 C.F.R. 141.3, 141.31, 141.75, 142.14, 142.15, 142.20, 142.21, 142.40-142.65, 42 U.S.C. 300f-300j-26, EO 2009-538

NECESSITY, FUNCTION, AND CONFORMITY: KRS 224.10-100(28) and 224.10-110(2) authorize the cabinet to promulgate administrative regulations for the regulation and control of the purification of water for public and semipublic use. EO 2009-538, effective June 12, 2009, establishes [~~2008-507 and 2008-531, effective June 16, 2008, abolish the Environmental and Public Protection Cabinet and establish~~] the new Energy and Environment Cabinet. This administrative regulation establishes the general provisions for regulating public and semipublic water supplies.

Section 1. A public or semipublic water system shall be subject to the requirements of 401 KAR Chapter 8, except those exempted in 40 C.F.R. 141.3[, ~~effective July 1, 2007~~].

Section 2. (1) Public and semipublic water systems. A person shall not operate or commence

1 operation of a public or semipublic water system except in compliance with the provisions of
2 401 KAR Chapter 8 and 40 C.F.R. 141[~~effective July 1, 2007~~]. A water supply system
3 constructed prior to November 11, 1990, may be continued in use, if the operation, maintenance,
4 bacteriological, chemical, physical, and radiological standards comply with 401 KAR Chapter 8,
5 or the system obtains a variance or exemption from those standards in accordance with 40 C.F.R.
6 141[~~effective July 1, 2007~~].

7 (2)(a) A cross-connection shall be prohibited.

8 (b) The use of automatic devices, such as reduced pressure zone back flow preventer and a
9 vacuum breaker, may be approved to protect public health, in lieu of air gap separation.

10 (c) A combination of air gap separation and an automatic device shall be required if
11 determined by the cabinet to be necessary due to the degree of hazard to public health.

12 (d) Every public water system shall determine if or where a cross-connection exists and shall
13 immediately eliminate it.

14 (3) A bypass shall not be created or maintained without the prior written approval of the
15 cabinet stating the approved circumstances for establishment of a bypass, its design, and the
16 exact conditions for its use.

17 (4) An auxiliary intake shall not be used in direct connection with a public or semipublic
18 water system except with prior written approval from the cabinet stating the emergency
19 condition that necessitates the intake.

20 (5) The plumbing system serving the purification plant and auxiliary facilities shall discharge
21 to a sewer system if available.

22 (a) If a sewer is not available, the connection shall be made to a sewage disposal facility
23 approved pursuant to KRS Chapter 211.350 through 211.392 or 224.16-050.

(b) There shall not be connections between the sewer system and a filter backwash, filter-to-waste drain, or clearwell overflow line, unless an air gap is provided between the drain and overflow line and the sanitary storm sewer or natural drainage system, so as to preclude the possibility of back-up of sewage or waste into the drain or overflow line.

(6) The owner or operator of a public water system shall operate and maintain the facilities and systems of treatment, intake, and distribution to comply with the provisions of 401 KAR Chapter 8. Operation and maintenance includes effective performance, preventive maintenance, operator staffing and training pursuant to 401 KAR 8:030, 11:040, and 11:050, establishing representative sample points that comply with the requirements of 401 KAR Chapter 8, and adequate process controls for testing, including quality assurance procedures.

(7) Reports to the cabinet.

(a) The supplier of water shall provide a complete monthly operating report to the cabinet, which shall be received at the Division of Water, 200 Fair Oaks Lane, Frankfort, Kentucky 40601 not later than ten (10) days after the end of the month of which the report is filed.

1. A completed report shall include:

a. Volume of water treated;

b. Type and amount of chemicals added;

c. Test results appropriate to be reported by the plant; and

d. The dated original signature, or equivalent, pursuant to KRS Chapter 369, of the owner or authorized agent.

2. A supplier of water shall submit the reports required by 40 C.F.R. 141.75(b) to the cabinet not later than ten (10) days after the end of each month the public water system serves water to the public.

1 3. Public water systems shall report to the cabinet in accordance with 40 C.F.R. 141.31[
2 ~~effective July 1, 2007~~].

3 (b) Reports of failure to comply. A public water system shall report to the cabinet within
4 forty-eight (48) hours, by phone or in writing, the failure to comply with a provision of 401 KAR
5 Chapter 8, including the failure to comply with monitoring requirements.

6 (c) Emergency reports.

7 1. If a public water system experiences a line break or loss of pressure as established in 401
8 KAR 8:150, Section 4(2)(e), loss of disinfection, or other event that may result in contamination
9 of the water, the public water system shall immediately report to the cabinet by calling the
10 Division of Water in Frankfort at (502) 564-3410 or the appropriate regional field office of the
11 Division of Water.

12 2. If a report required by this paragraph is made during other than normal business hours, it
13 shall be made through the twenty-four (24) hour environmental emergency telephone number,
14 (800) 928-2380 [~~(502) 564-2380~~].

15 (8) Records to be maintained. Owners or operators of a public water system shall keep the
16 records established in 40 C.F.R. 141.33[~~effective July 1, 2007~~] on the premises
17 or readily accessible to cabinet staff inspecting the system.

18 (9) Boil water and consumer advisories.

19 (a) Boil water advisories.

20 1. A public water system or semipublic water system shall [~~may~~] issue boil water advisories
21 if the system believes an advisory is warranted.

22 2. The cabinet may direct that a boil water advisory be issued upon:

23 a. The reception of confirmed positive bacteriological results including E. coli or fecal

coliform in at least one (1) sample; or

b. Other circumstances that warrant an advisory for the protection of public health.

3. The cabinet may, if circumstances warrant for the protection of public health, issue a boil water advisory directly, rather than rely on a public or semipublic water system to issue the advisory.

4. Boil water advisories shall remain in effect until the cabinet approves the lifting of the advisory based on bacteriological results showing coliform bacteria are not present in the water.

(b) Consumer advisory.

1. The cabinet may issue a consumer advisory if:

a. Conditions within a public water system or semipublic water system indicate a possible adverse health effect from consumption of the water distributed by the system; or

b. Other information of interest to the consumer exists.

2. The advisory shall notify affected persons of a required or recommended action.

(c) A public or semipublic water system shall:

1. Immediately notify the local health department that serves the area affected if a boil water advisory or consumer advisory is issued.

a. The notification may be made by telephone or fax machine for an occurrence during normal business hours.

b. For an occurrence after normal business hours, the public or semipublic water system shall notify the affected local health department in a manner agreed upon by the system and affected health department; or

2. Develop a protocol with a local health department that describes when and how the system shall notify the affected health department if the system issues a boil water advisory or

consumer advisory. The protocol shall address:

- a. For which types of advisories the system shall notify the affected health department;
- b. What procedures shall be used to notify, and under what circumstances;
- c. How soon after the occurrence the notification shall be made; and
- d. To whom the notification shall be made, during and after business hours.

(10) How to issue advisory.

(a) Boil water advisories and consumer advisories shall be issued through newspapers, radio, television, or other media having an immediate public impact.

(b) As a health and safety measure, the water system shall repeat the notification during the period of imminent danger at intervals that maintain public awareness.

(c)1. The advisory shall be readily understandable and shall include instructions for the public, as well as an explanation of the steps being taken to correct the problem.

2. Boiling instructions shall caution to boil water to be used for consumption by boiling the water for at least three (3) minutes at a rolling boil.

(11) Maps.

(a) A public or semipublic water system shall have on the premises, or readily accessible to cabinet staff inspecting the system, an up-to-date map of the distribution system. The map shall, at a minimum, show:

1. Line size;
2. Cutoff valves;
3. Fire hydrants;
4. Flush hydrants;
5. Tanks;

6. Booster pumps;
7. Chlorination stations;
8. Connection to emergency or alternative sources;
9. Wholesale customer master meters; and
10. Type of piping material in the distribution system and its location.

(b)1. If a public water system is not able to comply with the requirements of paragraph(a) of this subsection the system may petition the cabinet to modify this requirement.

2. The petition for modification shall state specifically what portion of the requirements of paragraph (a) of this subsection is not practical and why.

(12) Operation and maintenance manual.

(a) Each public water system shall develop and keep on the premises, for operators and employees of the system, an operation and maintenance manual that includes:

1. A detailed design of the plant;
2. Daily operating procedures;
3. A schedule of testing requirements designating who is responsible for the tests; and
4. Safety procedures for operation of the facility, including storage and inventory requirements for materials and supplies used by the facility.

(b) The operation and maintenance manual shall be updated as necessary, but not less than annually, and shall be available for inspection by the cabinet.

(c) Public water systems serving fewer than 100 people or thirty (30) service connections may request that the cabinet waive the requirements of paragraphs (a) and (b) of this subsection. The request shall be in writing and any waiver granted by the cabinet shall be in writing and be retained by the public water system for examination by cabinet personnel.

1 (13) Flushing recommended.

2 (a) To protect public health, a distribution system may be thoroughly flushed at least twice a
3 year, usually in the spring and fall. The purpose of systematic flushing is to reduce turbidity
4 created from the scouring of accumulated sediment within the water lines.

5 1. Flushing shall start at the hydrants nearest the source of supply and proceed in an
6 outward direction to the end of each main.

7 2. Flushing shall continue at each hydrant until all traces of turbidity and color are gone.

8 3. Hydrants shall be opened and shut slowly to prevent damage from water hammer.

9 (b) In addition to the regularly scheduled flushing, the following conditions shall indicate a
10 need to flush the entire system:

11 1. Turbidity within the distribution system greater than five (5) or one (1) nephelometric
12 turbidity units, or NTU, as applicable to the system;

13 2. An inability to maintain an adequate residual of a disinfection agent in any part of the
14 system; or

15 3. A heterotrophic plate count, or HPC, in excess of 500.

16 (c) Other indicators that flushing may be necessary shall be taste and odor complaints, color
17 of water, contaminated water samples, or line repairs.

18 (14) A person shall not introduce into the water supply system a substance that may have a
19 deleterious physiological effect, or for which physiological effects may not be known.

20 (15) Certified lab analysis required. For the purpose of determining compliance with the
21 sampling requirements of 401 KAR Chapter 8, samples shall be analyzed by a laboratory
22 certified by the cabinet as prescribed in 401 KAR 8:040, except that measurements for turbidity,
23 disinfectant residuals, and other parameters specified by 40 C.F.R. 141.28 and 141.131 may be

1 performed by a certified operator or an individual under the supervision of a certified operator.

2 (16) Right of entry. The cabinet may enter an establishment, facility, or other property of
3 public and semipublic water supplies in order to determine whether the supplies have acted or
4 are acting in compliance with applicable laws or regulations that the cabinet has the authority to
5 enforce.

6 (a) Entry may include collection of water samples for laboratory analyses and inspection of
7 records, files, papers, processes, controls, and facilities required to be kept, installed, or used
8 under the provisions of 401 KAR Chapter 8.

9 (b) The cabinet or its authorized agent may cause to be tested a feature of a public water
10 system, including its raw water source, to determine compliance with applicable legal
11 requirements.

12 (17) Recommended practices for water supply reservoirs to be used for drinking water. The
13 following practices may be employed by water systems that have a lake primarily used as a
14 source of raw drinking water:

15 (a) Prohibition of swimming, water skiing, and other contact sports;

16 (b) Prohibition of large motor-driven craft or any craft with toilets;

17 (c) A requirement that an area at least 100 feet wide from the upper pool elevation be kept
18 clear of all sources of potential contamination such as septic tanks, drain fields, livestock, and
19 barns;

20 (d) Prohibition of effluent from sewage treatment plants being discharged into the lake;

21 (e) Picnicking may be permitted around the lake if plans for the development of a picnic area
22 meet regulatory requirements of the cabinet; and

23 (f) Implementation of a nonpoint source pollution control plan.

1 (18) Water treatment chemicals and system components. Chemical additives and protective
2 materials, such as paints and linings, may be used by a water system if they meet the
3 requirements established in the Great Lakes-Upper Mississippi River Board of State Public
4 Health & Environmental Managers' Recommended Standards for Water Works.

5 (19) Disposal of chlorinated water. Chlorinated water resulting from disinfection of treatment
6 facilities and new, repaired or extended distribution systems shall be disposed in a manner that
7 shall not violate 401 KAR 10:031.

8 (20) Water loading stations. A public water system that provides water loading stations for
9 the purpose of providing water to water hauling trucks or other bulk water devices shall construct
10 the stations to conform to the standards in the Great Lakes-Upper Mississippi River Board of
11 State Public Health & Environmental Managers' Recommended Standards for Water Works.

12 Section 3. The cabinet shall maintain records and submit reports as established in 40 C.F.R.
13 142.14 and 142.15[~~effective July 1, 2007~~].

14 Section 4. A public water system may receive a variance or exemption from some provisions
15 of 401 KAR Chapter 8 only in accordance with 40 C.F.R. 141.4[~~142.20, 142.21, 142.40-142.65,~~
16 ~~and 142.301-142.313, effective July 1, 2007~~].

17 Section 5. A public water system may use noncentralized treatment devices or bottled water
18 in accordance with 40 C.F.R. 141, Sections 141.101[~~effective July 1, 2007~~].

19 Section 6. Incorporation by Reference. (1) "Recommended Standards for Water Works,
20 2003," A Report of the Committee of the Great Lakes-Upper Mississippi River Board of State
21 Public Health and Environmental Managers, is incorporated by reference.

22 (2) This material may be inspected, copied, or obtained, subject to applicable copyright law,
23 at Division of Water, 200 Fair Oaks Lane, Frankfort, Kentucky 40601, Monday through Friday,

1 8 a.m. to 4:30 p.m.

2 (3) This material may also be obtained through the division's Web site at

3 www.water.ky.gov/dw.

401 KAR 8:020 “Public and semipublic water supplies; general provisions” approved for promulgation:

Date

Leonard K. Peters, Secretary
Energy and Environment Cabinet

PUBLIC HEARING AND PUBLIC COMMENT PERIOD: A public hearing on this administrative regulation shall be held on April 26, 2010 at 5:00 P.M. (Eastern Time) at 300 Fair Oaks Lane, Conference Room 301D, Frankfort, Kentucky. Individuals interested in being heard at this hearing shall notify this agency in writing by April 19, 2010, five workdays prior to the hearing, of their intent to attend. If no notification of intent to attend the hearing is received by that date, the hearing may be canceled. This hearing is open to the public. Any person who wishes to be heard will be given an opportunity to comment on the proposed administrative regulation. A transcript of the public hearing will not be made unless a written request for a transcript is made. If you do not wish to be heard at the public hearing, you may submit written comments on the proposed administrative regulation. Written comments shall be accepted until April 30, 2010. Send written notification of intent to be heard at the public hearing or written comments on the proposed administrative regulation to the contact person.

CONTACT PERSON: Abigail Powell, Regulations Coordinator
Division of Water
200 Fair Oaks Lane
Frankfort, KY 40601
Telephone: (502) 564-3410 Fax (502) 564-0111
Email: Abigail.Powell@ky.gov

REGULATORY IMPACT ANALYSIS AND TIERING STATEMENT

Administrative Regulation #: 401 KAR 8:020

Contact Person: Peter Goodman, Assistant Director

(1) Provide a brief summary of:

- (a) What this administrative regulation does:** This administrative regulation provides general provisions for the regulation of public and semipublic water systems.
- (b) The necessity of this administrative regulation:** This administrative regulation provides general guidelines for the operation of public water systems to protect public health, including reporting and recordkeeping requirements.
- (c) How this administrative regulation conforms to the content of the authorizing statutes:** KRS 224.10-110 authorizes the cabinet to regulate public and semipublic water systems.
- (d) How this administrative regulation currently assists or will assist in the effective administration of the statutes:** General provisions provide public water systems with general guidelines for treating water to protect public health.

(2) If this is an amendment to an existing administrative regulation, provide a brief summary of:

- (a) How the amendment will change this existing administrative regulation:** This administrative regulation updates the federal citations. The substantive requirements of the existing regulations are unchanged.
- (b) The necessity of the amendment to this administrative regulation:** The amendment will allow future changes in federal regulatory requirements to be more easily adopted.
- (c) How the amendment conforms to the content of the authorizing statutes:** The updated citations will make the administrative regulation conform exactly to federal requirements.
- (d) How the amendment will assist in the effective administration of the statutes:** This amendment will allow future changes in federal regulatory requirements to be more easily adopted.

(3) List the type and number of individuals, businesses, organizations, or state and local governments affected by this administrative regulation: This regulation applies to 479 public and 52 semipublic water systems.

(4) Provide an analysis of how the entities identified in question (3) will be impacted by either the implementation of this administrative regulation, if new, or by the change, if it is an amendment, including:

- (a) List the actions that each of the regulated entities identified in question (3) will have to take to comply with this administrative regulation or amendment:** This administrative regulation updates the federal citations. The substantive requirements of the existing regulations are unchanged.
- (b) In complying with this administrative regulation or amendment, how much will it cost each of the entities identified in question (3):** The costs of complying with this administrative regulation are unchanged.
- (c) As a result of compliance, what benefits will accrue to the entities identified in question (3):** Public and semipublic water systems will benefit by reassurance that the requirements

of this administrative regulation are no more stringent than the federal requirements.

- (5) Provide an estimate of how much it will cost the administrative body to implement this administrative regulation:**
- (a) Initially:** The requirements of this regulation are unchanged from regulations currently in place.
 - (b) On a continuing basis:** The requirements of this regulation are unchanged from regulations currently in place. Costs of implementation will remain the same.
- (6) What is the source of the funding to be used for the implementation and enforcement of this administrative regulation?** The source of funding for the drinking water program is federal funds to administer the requirements of the federal Safe Drinking Water Act.
- (7) Provide an assessment of whether an increase in fees or funding will be necessary to implement this administrative regulation, if new, or by the change if it is an amendment:** An increase in fees will not be necessary.
- (8) State whether or not this administrative regulation established any fees or directly or indirectly increased any fees:** This regulation does not establish fees or directly or indirectly increase fees.
- (9) TIERING: Is tiering applied? (Explain why or why not)**
Yes. The requirements of the regulation are tiered based on whether the system is a public or a semipublic water system.

FISCAL NOTE ON STATE OR LOCAL GOVERNMENT

Regulation #: 401 KAR 8:020

Contact Person: Peter Goodmann, Assistant Director

- 1. Does this administrative regulation relate to any program, service, or requirements of a state or local government (including cities, counties, fire departments, or school districts)?**

Yes X No

If yes, complete questions 2-4.

- 2. What units, parts or divisions of state or local government (including cities, counties, fire departments, or school districts) will be impacted by this administrative regulation?**

This administrative regulation applies to public and semipublic water systems. A unit of state or local government that owns a public water system will be impacted by this regulation.

- 3. Identify each state or federal statute or federal regulation that requires or authorizes the action taken by the administrative regulation.**

KRS 224.10-100(28), and 224.10-110, are state statutes under which portions of this regulation are promulgated. 40 C.F.R. 141 and 142 are promulgated by the Environmental Protection Agency pursuant to the Safe Drinking Water Act and portions of these regulations are cited where federal standards are to be maintained.

- 4. Estimate the effect of this administrative regulation on the expenditures and revenues of a state or local government agency (including cities, counties, fire departments, or school districts) for the first full year the administrative regulation is to be in effect.**

(a) How much revenue will this administrative regulation generate for the state or local government (including cities, counties, fire departments, or school districts) for the first year? This regulation will not generate any revenue for local governments for the first year.

(b) How much revenue will this administrative regulation generate for the state or local government (including cities, counties, fire departments, or school districts) for subsequent years? This regulation will not generate any revenue for local governments in subsequent years.

(c) How much will it cost to administer this program for the first year? The amendments to this administrative regulation simply update the federal citations; they will not impose any additional cost in the first year.

(d) How much will it cost to administer this program for subsequent years? The amendments to this administrative regulation simply update the federal citations; they will not impose any additional cost in subsequent years.

Note: If specific dollar estimates cannot be determined, provide a brief narrative to explain the fiscal impact of the administrative regulation.

Revenues (+/-):

Expenditures (+/-):

Other Explanation:

FEDERAL MANDATE ANALYSIS COMPARISON

Administrative Regulation#: 401 KAR 8:020

Contact Person: Peter Goodman, Assistant Director

1. Federal statute or regulation constituting the federal mandate.

42 U.S.C. Chapter 6A, Subchapter XII, the Safe Drinking Water Act, 40 C.F.R. 141 and 142

2. State compliance standards.

KRS 223.220, 224.10-100(28), 224.10-110

3. Minimum or uniform standards contained in the federal mandate.

40 C.F.R. 141 and 142 establish National Primary Drinking Water Regulations and implementation standards for those regulations. This regulation establishes the requirements for a variance or exemption from requirements, the conditions for use of non-centralized treatment devices and bottled water, and certain reporting and recordkeeping requirements pursuant to the federal mandate.

4. Will this administrative regulation impose stricter requirements, or additional or different responsibilities or requirements than those required by the federal mandate?

This regulation establishes some different requirements for general operation and maintenance, boil water notices and advisories, procedures for repairing line breaks, and other general requirements for a public water system that have no federal counterpart. Those portions of this regulation are promulgated pursuant to KRS 224.10-110, 224.10-100, and 223.160.

The portions of the regulation that cite federal requirements do not impose stricter requirements or different responsibilities or requirements than those imposed by the federal mandate.

5. Justification for the imposition of the stricter standard, or additional or different responsibilities or requirements.

The requirements of this regulation that have been promulgated pursuant to state law have been in place for some time; most were in place prior to the passage of the Safe Drinking Water Act. Kentucky's heavy use of surface water sources and karst groundwater geology have led to long standing practices and requirements designed to help protect public health.